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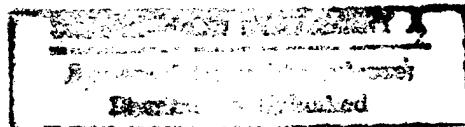
21 July 1982

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# Worldwide Report

## ENVIRONMENTAL QUALITY

No. 361



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21 July 1982

WORLDWIDE REPORT  
ENVIRONMENTAL QUALITY

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GOVERNMENT STUDY FAVORS GREATER PUBLIC SAY IN CONSERVATION

Melbourne THE AGE in English 31 May 82 p 4

[Article by Rosslyn Beeby]

[Text]

A Federal Government discussion paper on conservation has recommended more public participation in decisions affecting natural resources and the environment.

The discussion paper, prepared by a Department of Home Affairs and Environment task force, outlines recommendations for the management of Australia's natural environment.

Entitled 'Towards a National Conservation Strategy', the paper is the result of a national seminar in Canberra last year. The seminar was attended by more than 200 representatives from industry, Government and environmental groups.

Recommendations include:

- An intensive soil conservation programme, including research and development of minimum tillage farming systems and tax incentives for land users to retain or plant trees as part of a national tree programme.
- A national strategy for conserving rain forests. The paper claims further loss of Australia's diminishing areas of rainforests will cause a loss of important native plant and animal life.
- A public review at national level of policies relating to the

supply of forest products, including re-evaluation of the economy of woodchip export.

- The development of a national fertiliser policy with particular emphasis on phosphorus. The paper claims there is a need for farmers to be more selective in application of phosphorus and recommends research into the recovery of phosphorus from urban sewage.

- Promotion of alternative regional tourism and recreational facilities to ease pressure on fragile conservation areas.

- Improved controls on discharge of sewage and land-based effluents into rivers and the sea.

The paper also recommends that a more efficient use of resources could be achieved by educating people to limit their material demands.

It calls for more participation in environmental management and resources development by farmers, foresters, environmental groups, local government and the mining, manufacturing and tourist industries.

Public comment on the discussion paper will be invited until 15 September, when the Department of Home Affairs and Environment will begin preparing a draft strategy for a national conference in February next year.

CSO: 5000/7551

FRANKLIN RIVER DAM REMAINS BURNING POLITICAL ISSUE

Appeal to Federal Gov't

Canberra THE AUSTRALIAN in English 18 May 82 p 3

[Article by Gregg Borschmann]

[Text]

**L**AKE Pedder, Fraser Island and now the Franklin River seem destined to be regarded as symbols of the emerging activism of the Australian conservation movement.

When in 1972 the imminent flooding of Lake Pedder in Tasmania's south-west wilderness spawned direct political action, it was the first traumatic round of a new national and serious game, conservation politics.

A decade later and after Fraser Island, the Franklin River has again landed conservation in the political lime-light.

Tasmanian politics dealt the conservationists a harsh lesson in 1972 and Pedder drowned a silent, ignoble and apparently unnecessary death.

The most recent lesson has been no less tough, but the Franklin issue still appears unresolved and potentially destructive politically.

It may be tempting to conclude conservation is still far from a big vote-winner.

Yet according to Australian Conservation Foundation research, last December more than 1000 Australian conservation bodies had membership of between 350,000 and 400,000 — more than the combined membership of all political parties. The Tasmanian Wilderness Society also claims a

membership greater than any Tasmanian political party.

The president of the ACF, Mr Murray Wilcox QC, touched upon the "political problem" for conservationists in a speech to a seminar held at Gympie, in Queensland, last weekend.

"There is a problem of political timidity. Politicians say 'we can't get ahead of public opinion'. What they are forgetting is that they are often a mile behind public opinion," he said.

Mr Wilcox said a public opinion poll last December showing 69 per cent of NSW people were opposed to further rainforest logging had influenced the NSW Government.

"Several weeks ago the Premier of NSW, Mr Wran, said rainforest logging was neither environmentally nor politically acceptable. He was not making noises like that before that poll. I think we are on the brink of a major victory in the rainforest campaign in NSW," Mr Wilcox said.

Ten years ago, just as happened this year, the Liberal and Labor parties in Tasmania approached an impending election committed to the Tasmanian Hydro-Electric Commission's power expansion program.

That political brick wall led to the formation of a new political party, the United Tasmania Group, four weeks before the April election.

The group, a loose coalition of various conservation interests with some involvement from the Australian Union of Students, was seen as a single-issue party.

But the director of the University of Tasmania's centre for environmental studies and later president of the new party, Dr Richard Jones, told *The Australian* the group went beyond Lake Pedder: "It was a total protest over disenfranchisement in the Parliament ... and the way democracy was being handled in this State."

**ABUSE**

**OF POWER**

The director of the Total Environment Centre in Sydney, Mr Milo Dunphy, co-directed the 1972 United Tasmania Group campaign with Dr Jones. He told a public symposium of the day: "Political leaders and their departmental heads are mostly older men who developed in an era of unquestioned exploitation, too busy to question their own pre-conceptions, too dogmatic to listen to the questions of others."

The House of Assembly in Tasmania returns seven MPs from five electorates for four-year terms under the Hare-Clark proportional voting system. A candidate must poll 1/8th or 12.5 per cent of the formal vote to be elected (official Liberal policy of reducing electorates to five members

would make this 20 per cent, a much harder vote for independents or Australian Democrats to attain.

The United Tasmania Group stood 12 candidates in four electorates, but managed only 3.9 per cent of first preference votes. The party did, however, go close to winning a seat in Franklin, where three candidates shared 8 per cent of the first preference vote.

The United Tasmania Group continued as a small-time political party, broadened its policy base but ran out of puff, money and up-front personality in the late 1970s.

By comparison, the independents and Australian Democrats have performed measurably better this year — with 85 per cent of the vote counted, the Democrats already had 5 per cent of the first preference vote, and independents 7.2 per cent.

The issues which motivated the two most prominent independent and Democrat candidates, Dr Bob Brown, from the Tasmanian Wilderness Society, and Australian Democrat Dr Norm Sanders, were identical to those which motivated the United Tasmania Group 10 years ago.

Dr Sanders stood aside from directorship of the Wilderness Society in 1980 because he was opposed to the Lower Gordon Dam, and he was angry about the loggers, the woodchippers and cheap power going to heavy industry.

But he admits he would not have been elected without four years' media exposure as a current affairs reporter on Tasmanian television.

Dr Brown was concerned primarily with the Franklin River, but also the wider problem of use and abuse of power.

Despite his apparently unsuccessful political foray, Dr Brown remains convinced the economics of the proposed dam will eventually create an intolerable political situation, thus saving the river.

The ACF's call earlier this week for a national referendum is obviously part of a new national campaign.

Obviously, the conservation movement has decided the Franklin River is right for the fight. Perhaps it may survive as a living memorial to the dead Lake Pedder.

## Politics of Conservation

Canberra THE AUSTRALIAN in English 20 May 82 p 7

[Article by Peter Dwyer]

**[Text]** CONSERVATIONISTS, disillusioned after the poor showing of most of their candidates in Tasmania's election on Saturday, are preparing to take their fight for the Franklin River to Canberra.

They have conceded that a Tasmanian Liberal Government would successfully legislate for the Gordon below Franklin dam but believe funding for the scheme could be blocked in Canberra.

Yesterday, even the pro-dam movement in Tasmania said it seemed certain the conservation movement would take "its battle" to other States.

One of its leaders, Dr Rob Underwood, said: "Unfort-

unately, it seems that they (conservationists) will choose the same old confrontationist line."

The conservationists' leader, Dr Bob Brown, claimed yesterday the no-dams lobby had not been decimated in the election. He foreshadowed the national campaign and said the dam would never be built.

However, prominent no-dams candidates including the former Government Whip, Mrs Willey, and the Labor Minister for Police, Mr Graham, appear to have unsuccessfully sought seats in the new Parliament.

But while the successful Liberal Party claims its election is a mandate for the dam, no-dam lobbyists are convinced financial restrictions will en-

sure the scheme will never go ahead.

Yesterday the Leader of the Australian Democrats, Senator Chipp, an opponent of the dam, challenged the Tasmanian Liberal Leader, Mr Gray, to prove he had an assurance from the Prime Minister, Mr Fraser, that the Loans Council would not block funding for the dam.

On Sunday, Mr Gray said Mr Fraser had told him that infra-structure finance due to the State would be available to build the dam.

Senator Chipp said: "I challenge Mr Gray to provide documentary evidence to show that he has received this firm assurance.

"His claim runs contrary to advice I have received in a letter from the Prime Minister."

Senator Chipp said that on February 2 this year the Prime Minister indicated in a letter that the Commonwealth had given no commitment to support the dam should the Tasmanian Government proceed with it.

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CSO: 5000/7549

LAND CALLED 'DEGRADED' AS MAN DESTROYS FLORA, FAUNA

Canberra THE WEEKEND AUSTRALIAN in English 22-23 May 82 p 2

[Text] THE native animals and vegetation of vast tracts of Australia's arid lands face a bleak future unless sound ecological management is applied soon, leading environmentalists warned yesterday.

The introduction of feral animals and the advent of humans, which have already caused the extinction of many native mammals, has meant that of the 69 per cent of the Australian continent classified as arid lands, 35 per cent has been "degraded".

The focus on Australia's Arid Lands conference in Broken Hill was told by Dr Martin Denny, of Mount King Ecological Surveys of Sydney, that the impact of humans since the arrival of the Aborigines was exemplified by a study of mammal species at Lake Menindee, south of Broken Hill.

"The number of mammal species in that area 20,000 years ago was about 40, during the 19th century

this had fallen to 27 species, and by 1974 only nine native animal species were known from the area," Dr Denny said.

He blamed the high extinction rate on European settlers, and

— in the 20,000 years before the arrival of Europeans — climate changes and the use of fire and efficient hunting techniques by Aborigines.

### DANGER

"Considering the history of exploitation by humans of the Australian arid lands, the future looks bleak," Dr Denny said.

There was hope in the continued acquisition of land for national parks although much of the land acquired was not chosen for its usefulness in representing various habitats but because it had economic value, he said.

The danger posed and damage already wrought by feral animals could not be underestimated, he warned. For example, 31 species of animals had been introduced

by man to Queensland alone.

"Amongst the introduced birds, the sparrow has displaced many small native birds," Dr Denny said.

"Large mammals such as camels, brumbies and donkeys destroy natural vegetation and hence habitat for many native animals, and the rabbit is believed to be the cause of the fall in status of many burrowing mammals through competition for nesting sites.

"Cats are capable of killing large numbers of native animals. On Macquarie Island it has been estimated that 375 feral cats take 58,000 Antarctic birds as well as 56,000 rabbits annually."

Dr Denny said other feral animals, such as the goat, were linked to the loss of the yellow-footed rock wallaby from NSW.

MORETON SAND MINING DEBATE FOCUSES ON ENVIRONMENTAL LAW

Brisbane THE COURIER-MAIL in English 24 May 82 p 3

[Text] **THE Federal Government may be forced legally to use legislative powers which would effectively prevent sand mining on Moreton Island, according to the Australian Conservation Foundation president, Mr Murray Wilcox.**

Mr Wilcox, QC, told an environmental seminar in Brisbane on Saturday that Moreton Island may be saved in a similar way to Fraser Island.

His comments came after the Environment, Valuation, and Administrative Services Minister, Mr Hewitt, told a public meeting organised by the Moreton Island Protection Committee, 'there was "little prospect" the State Government would change its policy on mining.

Mr Hewitt said later: "I anticipate seeing mining activity in the next 12 months on the island."

He had just been presented with a letter from the committee, claiming to represent more than 30, 000 people, which is being circulated to all state members of Parliament urging a reconsideration of mining approval for about 16 km of ocean beach (6.4 percent of the island).

At the seminar, Mr Wilcox, after delivering a speech on new environmental legislation in New South Wales, was asked about the applicability of the Australian Heritage Commission Act to Moreton Island.

Warning his audience he was speaking "off the cuff" he said Moreton Island was on the commission's national register and "you may well find it is a candidate for section 30 of the federal Act."

Mr Wilcox said section 30 presented any action by federal authorities having an adverse effect on any part of an area on the register, if there was a "prudent and feasible alternative".

He said in the case of Moreton Island, no one had bothered to look for prudent and feasible alternatives.

"It simply has not been done," Mr Wilcox said.

The Federal Government may be forced to withhold approval for export licences of mineral sand products.

He said he would expect such a case would be heard in the Federal Court.

The Queensland Conservation Council president, Mr Jason Reynolds, said a public meeting would be held in the next few weeks to set up a Queensland Environmental Law Association, perhaps similar to Victorian and NSW models.

Mr Hewitt said he believed his portfolio should be expanded to include the administration of the Clean Water Litter and Beach Protection Acts.

Mr Tor Hundloe, a lecturer at Griffith University, agreed that for the environment department to be effective it needed to become a super-department, with the same staff and resources as the Treasury and Co-ordinator General's Department.

Mr Jim Fuller, state manager of the National Trust of Queensland, said Mr Hewitt was welcome to the responsibility for the National Trust. "Our present Minister appears to be too caught

up in other matters too often to be concerned about the Trust," he said.

Mr Arthur Harrold, the Cooloola Committee president and the Noosa Parks Association secretary, said existing environmental legislation in Queensland was ineffective and public and even expert official government involvement was not encouraged.

CONSERVATIONISTS CONDEMN HONEYMOON URANIUM MINE

Perth THE WEST AUSTRALIAN in English 28 May 82 p 18

[Text]

ADELAIDE: The proposed solution method of mining at South Australia's Honeymoon uranium mine has been condemned by a conference of conservationists and scientists at Broken Hill.

The Honeymoon project "set a very dangerous precedent," the 200 conservationists and scientists said in a statement at the end of the arid-lands conference yesterday.

"Proliferation of such activities could seriously contaminate arid-land water supplies," they said.

[The Honeymoon mine, about 80km north-west of Broken Hill, is the first in Australia to use a mining method in which an acid solution is pumped into the soil to leach out uranium.]

During their five-day conference, the conservationists condemned all uranium mining anywhere in Australia and said that the arid lands should not be regarded as dumping grounds for chemicals or nuclear wastes.

The South Australian

Government was criticised for "the indecent haste" with which it had introduced changes to the State's Pastoral Act.

The changes, due to be voted on in the State's Upper House next month, would allow perpetual leases rather than the present 42-year terms for pastoralists holding leases covering approximately 60 per cent of the State.

The conference called on the Government to heed the Vickery report, an inter-departmental investigation that recommended a five-year study before any decision was made on perpetual leases.

Some farming and other land-use practices outside the arid zones were threatening the arid lands, the conference warned.

"Because of the long-term effects on the quality of soil, water and vegetation, the Federal Government should initiate fundamental research into dry-land salting in the arid lands of Australia," it said.

CSO: 5000/7551

AUSTRALIA

BRIEFS

MURRAY RIVER ACCORD--South Australia is likely to be the big winner from the River Murray Waters Agreement announced in Canberra yesterday. The agreement gives the River Murray Commission the power to set water standards to reduce salt pollution. Until now the Canberra-based commission has been responsible only for water distribution. Serious salination problems, particularly in the lower reaches of the river, have caused a big row between NSW, Victoria and South Australia. The South Australian Government has accused NSW and Victoria of pumping thousands of tonnes of salt down the river to South Australia. The Murray is the lifeblood of South Australia and provides most of Adelaide's water supply. The need for a new Murray agreement was realised in 1973 but until now the States have not been able to agree to the terms of the new charter. The agreement was announced jointly by the Federal Minister for National Development and Energy, Senator Carrick, the NSW Minister for Energy and Water Resources, Mr Landa, the Victorian Minister for Water Supply, Mr White, and the South Australian Minister of Water Resources and Irrigation, Mr Arnold. They said the agreement would allow the commission to consider water quality in its investigations and operations, and to set standards for selected sections of the river. Engineering consultants are already investigating salt accumulation. [Vernon Graham] [Text] [Canberra THE AUSTRALIAN in English 19 May 82 p 3]

NSW NATIONAL PARK--A vast new national park will be established in western NSW, the Minister for Planning and Environment, Mr Bedford, announced yesterday. And it will help save one of the State's rarest animals, the yellow-footed rock wallaby. The first section of the new Mootwingee National Park, 160km north-east of Broken Hill, covers 33,600 hectares. Another area of about the same size will be added soon when the land purchases are completed. The park will then incorporate the Mootwingee historic site, an area rich in Aboriginal rock carvings and paintings. The first section of the park announced yesterday was formerly part of Gnalta Station, which the State Government bought when the lease expired in 1971. Mr Bedford said the wallaby would now have a permanent home in the park. "This park, in the semi-arid west, will preserve forever the habitat needed for the survival of the yellow-footed rock wallaby," he said. "It is critical that we act now before the species decline further. In less than 200 years of white settlement in the western region the large population of this timid little animal has been reduced almost to extinction. "This is a terrible indictment of the past and, in some cases, the uncaring attitudes of Australians towards native animals." The wallabies numbers have declined because of competition for food and shelter from sheep, feral goats and cats, rabbits, foxes and attacks by eagles. The second section of the park will preserve the spectacular Mootwingee ranges. [Joseph Glascott] [Excerpts] [Sydney THE SYDNEY MORNING HERALD in English 26 May 82 p 11]

BEACH HOTEL REJECTION--The proposed \$7.1 million redevelopment of the Cottesloe Hotel has been shelved by the Cottesloe Town Council. The council agreed that the development would have adverse effects on the neighbouring environment. The plot ratio of the building also exceeded the ratio in the town-planning scheme. There was not enough parking provided on site and it did not favour a proposal to build an underpass to a car-park on the beachfront, the council said. There were plans to restrict the height of buildings on the foreshore to three storeys and the proposed re-development involved a 10-storey building. Mr Tim Walsh, a spokesman for Fred Fairhead and Associates, the real estate company that made the application, said yesterday that the company would appeal to the Minister for Town Planning and Local Government, Mrs Craig. [Text] [Perth THE WEST AUSTRALIAN in English 28 Jun 82 p 12]

INDUSTRY CONSERVATION VIEW--MELBOURNE: Australia is in danger of conserving everything and developing nothing because of confused conservation policies, according to the Victorian Employers' Federation. It has called on the Federal Government to plan a national conservation strategy to avoid the evils of keen but unguided conservationists. The federation says that unless conservation plans are balanced they will slow down development and cost the public jobs. "Over recent years, ad hoc conservation policies influenced by a number of community groups have delayed industrial projects in some instances and stifled them altogether in others," it said. "And with those delays and postponements, important job opportunities for our unemployed have been lost." The federation said that by and large industry and commerce should also be conservation-minded, if only to ensure its own future. The federation said that the timber industry was in fact "probably more conservation-minded than many of our self-styled conservationists." It said that State governments should also develop conservation strategies. [Text] Perth THE WEST AUSTRALIAN in English 31 Jun 82 p 4]

CSO: 5000/7551

#### DENUDATION OF MADHYA PRADESH FORESTS CAUSES ALARM

New Delhi PATRIOT in English 7 Jun 82 p 4

[Text] BHOPAL, June 6. Rapid denudation of forests in Madhya Pradesh because of reckless and illicit felling of trees is causing alarm to the foresters.

While revenue from forests is showing upward trend year after year, at least one per cent of the forest area is being destroyed every year without replenishment. The forests yielded a record revenue of Rs 200 crores in 1980-81 as against Rs 150 crore in the previous year.

According to the Forest Department sources, total area covered by forests in Madhya Pradesh is supposed to be 36 per cent. But presently at more than 18 per cent is covered by live forests.

In fact, some of the areas shown as forests have been turned into vast wastelands. Bamboo has become scarce in Shahdol and adjoining districts which were once covered by bamboo forests. Unscientific tapping of bamboo for supply to Birla owned Orient Paper Mills at Amlai has resulted in denudation of bamboo forests.

This unfortunate phenomenon is the unlimited right given to bhoodiswamis to fell trees grown on their lands. Bhoodiswamis have played havoc with teak trees, which fetch fantastic rates. Teak wood worth crores of rupees is sold to forest contractors. In the entire region from Raigarh to Rajanandgaon, teak trees have been uprooted by greedy bhoodiswamis and traders.

Similarly timber trees are being felled indiscriminately throughout the State. In Raisen and Sehore districts big gang of forest marauders have virtually destroyed timber forests with the connivance of forest officials.

Within the next two decades the State may turn into desert if stringent steps are not taken to preserve existing forests.

Firewood is already in short supply in 18 of the 44 districts of the State.

Governor Bhagwat Dayal Sharma, who inaugurated 'environment week' yesterday here pulled up the Forest Department for not checking illicit felling of trees. The Governor said that every month timber valued at crores of rupees are being illegally felled from Budni forests near Hoshangabad to other States.

He accused the department of doing nothing to prevent this large-scale theft.

#### IMPACT OF POWER DEVELOPMENT ON ECOSYSTEM DISCUSSED

Madras THE HINDU in English 5 Jun 82 p 9

[Text] NEW DELHI, June 4. Only seven per cent of the vast hydro-electric potential of the fast-flowing rivers and streams of the Himalayas, a total of nearly 43,000 MW at 60 per cent load factor, has been utilised till 1978.

Mentioning this here today, Prof. M. G. K. Menon, Member, Planning Commission, told a high-level meeting of Ministries of the Union Government, universities, geological institutes, scientists and socio-economists it was imperative that this potential should be tapped as the demand for power was expected to increase four-fold in the next 20 years.

Nearly 200 hydro-electric projects have been planned keeping in view both the available hydro-potential and the requirement of energy.

Today's meeting discussed the planning of hydel projects and the impact of the various activities of a project on the region's ecology and the local population. Other subjects included measures for watershed restoration, cost-benefit analysis, the functional life of hydel projects and a multi-disciplinary review of the feasibility of setting up hydel projects in the hydel region.

Priority for rectification: Three working groups were set up to develop new approaches to utilise the Himalayan hydel potential without causing environmental imbalances and socio-economic stresses among the local inhabitants. It was also decided that in view of the fragile nature of the Himalayan ecosystem, the damage done to it by a variety of developmental activities must be rectified on a priority basis by co-ordinating the restorative work of different agencies.

Prof. Menon said it was very important that a multi-disciplinary examination of hydel and irrigation projects in the Himalayan region be carried out in order to minimise ecological damage from the execution of the projects.

Inadequate data: Though a large number of surveys have been carried out, the data collected are not adequate as there are still no answers to many basic questions. As a result, there has been support as well as opposition to the implementation of these projects.

It is, therefore, necessary that the data obtained on geological, ecological, geotechnical, climatological, environmental, meteorological and social aspects of the projects are complete, Prof. Menon said.

INDIA

BRIEFS

TAJ POLLUTION THREAT--NEW DELHI, June 4--The danger from air pollution to the Taj Mahal seems to be receding, according to the latest annual report of the Department of Environment. The concentration of the destructive sulphur dioxide gas in the atmosphere surrounding the Taj has decreased by 75 per cent compared to the 1980 levels, the 1981-82 reports says. It attributes the reduction to the closure of thermal power stations at Agra and the replacement of steam locomotives by diesel ones in the railway marshalling yards there. [Text] [Madras THE HINDU in English 5 Jun 82 p 6]

CSO: 5000/7065

INDONESIA

BRIEFS

NAIROBI CONFERENCE REPORT--Emil Salim, state minister for supervision of development and the environment (PPLH), was received by President Suharto at the Bina Graha on Saturday [22 May]. He reported on the results of the UNEP (UN Organization for the Environment) conference held in Nairobi several days ago in which Salim took part. Toward the year 2000, Emil Salim said, many forests will be destroyed as a result of the increase in the lumber industry demand rising from 53 53 cubic meters in 1973 to 95 million cubic meters in the year 2000. Further he estimated that 250 million persons will require agricultural land, all of which has to be obtained by clearing forests. Prof Salim estimated that forests would be stripped to a high degree in the coming period because of the increase in these requirements. Therefore President Suharto stressed the need to give the greatest possible attention to reforestation in Indonesia, the minister said. Salim remarked that the conference produced the "Nairobi Declaration" which recommits all nations to the problem of environment. Regional cooperation was stressed as important for taking care of the environment. Replying to the report on the results of the UNEP conference, President Suharto asked that ASEAN subregional cooperation be stressed. According to Emil Salim, ASEAN has cooperated in this regard and has agreed to try to improve the environment of the Malaka Strait and on South Natuna. ASEAN also is exploring cooperation with Japan and Australia in addition to similar efforts being made with Europe. According to Salim, these ASEAN cooperation plans were well received by President Suharto. The chief of state asked that subregional cooperation be further increased, particularly under present international conditions. [Excerpts] [Jakarta KOMPAS in Indonesian 24 May 82 p 12] 6804

CSO: 5000/8010

WELLINGTON HARBOUR POLLUTION MAKES SHELLFISH INEDIBLE

Wellington THE EVENING POST in English 2 Jun 82 p 21

[Excerpts]

W E L L I N G T O N  
Harbour's water quality is such that shellfish from the harbour cannot be eaten. However, most of the area's beaches are safe for swimming.

These are the conclusions of a study done by the Wellington Regional Council's water resources officer, Mr Keith Davis.

Mr Davis has presented his 105 page report to the council's water and soil management and regional recreation committee.

While the harbour had a significant harvest of shellfish, most if not all was likely to be contaminated at some time and should not be eaten, he said.

There were still some sewers discharging into the harbour and also 77 emergency discharge points and numerous unidentified discharges via stormwater systems.

There were very few occasions when harbour

shellfish would meet the standards set by the United States Food and Drug Agency.

As for local beaches, most complied with set standards under dry conditions, although Mr Davis described Oriental Bay as "borderline."

More data was needed from the bay but Mr Davis said most inner harbour areas had high bacteria counts and were close to major stormwater drains serving downtown Wellington.

Areas affected by sewer outfalls due to go out of existence by the end of next year would be improved but overall, there would not be any significant changes to the harbour's water quality unless there was continued upgrading of drainage systems in urban areas.

He said this may not be possible from either a practical or economic point of view. For instance, to fix all the Petone system would cost \$11 million.

CSO: 5000/9072

PEOPLE'S REPUBLIC OF CHINA

SAFETY REGULATIONS FOR PESTICIDE USE PUBLISHED

OW240844 Beijing XINHUA in English 0819 GMT 24 Jun 82

[Text] Beijing, June 24 (XINHUA) -- Safety regulations for the use of pesticides have been published by the Ministries of Agriculture, Animal Husbandry and Fishery and Public Health. In a circular accompanying the regulations, the two ministries urged the establishment of the responsibility system and employment of personnel specializing in plant protection.

Agricultural departments were urged to offer effective guidance in the scientific use of pesticides, train specialized personnel and provide information for the safe use of pesticides. Public health departments were told to prevent pesticide poisoning and treat those who are poisoned.

The classifications of the regulations are: scope and use of pesticides, purchase, transportation and storage of pesticides, instructions for use of pesticides, selection of workers to apply pesticides and personal protection.

Under the regulations, highly poisonous pesticides are not to be used on vegetables, tea, fruit trees or traditional Chinese medicinal plants. In addition to these plants, pesticides with a high remnant content are not to be used on tobacco, coffee, pepper or lemongrass.

The regulations forbid the transporting or storage of pesticides with foodstuffs or daily necessities.

Under the regulations, workers applying pesticides must be healthy persons who have received technical training.

CSO: 5000/2127

EXTENSIVE DESTRUCTION OF FOREST COVER REVEALED

Manila BULLETIN TODAY in English 15 Jun 82 p 7

[Text] NUWARA ELIYA. An aerial survey carried out by a Dutch team under the Nuwara Eliya integrated rural development program, has revealed, that within the past ten years, 30 per cent of the forest cover in Nuwara Eliya district has been destroyed. Further threats of destruction is imminent.

President J. R. Jayewardene and Minister of Lands, Land Development and Mahaveli Development Gamini Dissanayake have sounded warnings to the authorities here to arrest this situation. They have urged meaningful steps be taken to check the disappearance of virgin forests in the hill-country which form the major catchment areas of the Mahaveli and other sources of irrigational projects of the country.

A top level conference with officials from the Forest Department, Ministry of Lands, Land Development (forestry and environment section) and voluntary organisations were here with the Government Agent in the chair.

The conference which went into various aspects, decided in general that the entire forest area needs protection and development. It reviewed the progress of the tree planting campaign commenced in the district on January this year.

A master plan on hill-country forest protection and development is being worked out with maps indicating the forest reserves and wild life protection areas, which will be ready by July, 1982.

The GA. Nuwara Eliya has organised a series of seminars and discussions at grassroot levels on this national issue.

CSO: 5000/5774

CZECHOSLOVAKIA

SUPPORT FOR ENVIRONMENT BY MINISTRIES URGED

Prague RUDE PRAVO in Czech 3 Jun 82 p 3

[Article by Jan Jelinek: "Let Us Not Owe a Debt to Nature--Man's Tenacious Struggle for a Healthier Environment"]

[Text] We regard environmental protection as an integral part of improving our living standard. This involves conscientious care for forest cultivations and elimination of the consequences of industrial pollution. The growing need of water demands considerable attention to the development and protection of water resources. Further deterioration of the current situation of water pollution must be prevented. Appropriate authorities must proceed more stringently in controlling and penalizing those who have caused harm to our environment for arbitrary reasons or due to gross negligence. It is the duty of all responsible authorities and a common cause shared by all our people to preserve the fundamental values of our environment, the riches of our nature and the beauty of our country. (From the report of the party's central committee to the 16th CPCZ Congress)

We were driving in May through the Chomutov district, enjoying the nature, the luscious colors and fragrant blossoms, passing modern housing projects and imposing communities, beautiful little parks and flower beds; we heard the noise from children's playgrounds and the gurgling of the brooks rushing in the Krusne Hory mountains. Everything appeared at its best, but the higher we were ascending from the valley to the mountain gaps and crests of the Krusne Hory chain, the faster the attractive coloration of the countryside began changing right before our eyes into a dispirited picture.

Forests Stricken with Pollution

That picture was painted by the 20th century man, an industrious steward as well as destroyer, whose heart is aching at the sight of the unappealing desolation he had caused. The hillside and the plains high in the mountains are disfigured by stumps of a forest strangled to death by industrial pollution. Fallen trunks of imposing spruce trees, tree stumps, bare spots of eroding soil we saw in the vicinity of Kalk, Bolebor, Klinovec, Medenec and St. Sebastian's Mountain were all affected by the noxious breath of inversion.

Foresters could tell tales about sulphur dioxide products severely damaging the natural ecological balance. Hundreds of hectares of evergreens had to

be cut. Once upon the time working people used to come here for recreation. Resort hotels were to be built here. Crystal-clear air used to blow here. Splendid forests everywhere abounded with raspberries and blueberries and Boletus mushrooms were not a scarce find in their undergrowth.

Now more than 20,000 children are sent from the Chomutov area to breathe healthful ozone in open-air schools in the Beskydy, Sumava or Krkonose mountains... Even birds departed for some more hospitable quarters. Small wonder that in their drawings of the Krusne Hory trees toddlers in nursery schools color the leaves and pine needles brown. The dead wood of tree trunks offers most welcome feast for the bark beetle; in fact, that bug does not only gnaw the wood but also our guilty conscience...

From an elevation of 900 m above the sea level one can observe the smoke rising from the power stations in the valley, with its meddlesome tail sweeping the feet of the hills and the tops of the mountains and attacking the greenery as well as people's health. The pollution escaping from the stacks of power stations is the worst bane not only to the environment in the Chomutov district but also to the vicinity of Most, Teplice, Usti and Louny and to the entire North Bohemia lignite district, that "sharply" observed area pre-destined by the treasures of fuel hidden deep in its ground to a gloomy fate. It is imperative to exploit the coal seams in its mines for our power engineering and chemical industries, for lighting and heating our homes, for the operation of our factories...

#### Unprecedented Concentration of Power and Machine Engineering Facilities

The country of [the writer] Vaclav Rezac must pay really harsh but inescapable penalty for scientific and technological progress, and yet it is the same story all over the world. Our republic depends on its sources of energy and thus, the Chomutov district plays a key role in the economic potential of the CSSR. For better illustration it should be mentioned that it shares 22.2 percent in the statewide coal production, 15.5 percent in electric power generation and almost 50 percent in our entire pipe production...

Power and machine engineering industries are concentrated here to an unprecedented extent. The giant coal overcasts which produce 20 percent of the CSSR's lignite are located in the Chomutov-Tusimice-Prunerov triangle, on an area of only 50 square kilometers, and four thermal power stations with 3.2 GW capacity will generate here 20 percent of our republic's output of steam power plants. Here is a network of vital railroad tracks and of extensive technological facilities for long-distance transmission of heat and electricity as well as a metallurgical complex which processes 500,000 tons of steel annually.

Such a dense concentration of power engineering and raw material and material capacities on a small area is unique even on the world scale. No wonder that it negatively affects the ecology of the Krusne Hory mountains and their hillside because the fallout of air-borne dust is twice as high in the Chomutov area as in the vicinity of Ostrava, and along with downtown Prague it has reached the absolute high in the surveyed communities in the CSSR. Further-

more, sulphur dioxide escaping into the atmosphere has exceeded here the permissible level many times over.

The pollution from the chimneys of residential houses, boiler rooms and industrial plants heated with coal, and carbon dioxide emanating from spontaneous fires in strip mines must be added to this account. All those pollutants produce smog, particularly during the damp and cold autumn and winter months.

#### Stringent Measures by State and Party Authorities

Statistical data have sounded a warning signal for the Chomutov area about the loss of agricultural lands, higher incidence of diseases--particularly those affecting the upper respiratory tract--and about the migration of the population... Therefore, it will do no harm to remind ourselves of the wise and profoundly true instruction in Friedrich Engels' "Dialectics of Nature" urgently addressed to our souls: "... let us not be complacent about man's victory over nature. Such victory is always followed by nature's revenge. At first every victory leads to consequences which we had predicted, but on the second and third glance it produces other, quite unexpected results... And thus, at every step we realize that we shall never absolutely subdue nature but that our bodies, our blood and our brains belong to her, that we are attached to her and that all our possession of her depends on our ability to learn her laws better than other creatures, and to apply her laws correctly."

The state and party organs in the Chomutov okres do not permit anyone within their jurisdiction to pollute the environment without consideration. With all means available to them they are trying to prevent flue ashes and in the foreseeable future also gases emitted from power stations from escaping into the atmosphere. They intend to be more ingenuous in implementing decision No 252/1976 of the presidium of the CSSR government for improving the living conditions. Attempts will be made to eliminate harmful effects. Several hundreds of millions are being spent for recovery. Enormous funds have been allocated for capital investment in the public sphere, for medical care and more satisfying life of the people living and working in this district.

Furthermore, directives based on an area plan for the development of the North Bohemia kraj in the Seventh Five-Year Plan were adopted to eradicate the foci of air pollution. This document which was approved last year by the presidia of the CPCZ central committee and of the federal government and by the government of the CSR is expressed in the most comprehensible and urgent language and serves as a basis for modernization and innovative exchange of separators trapping solid pollutants released into the atmosphere from power engineering units in the first generation power stations of Tusimice I and Prunerov I.

The construction of a desulfurizing facility in the 200 MW unit in Tusimice II at the cost of over Kcs 1.25 billion is about to be launched. This astronomical amount demonstrates that we must pay dearly to protect our air and that our state does not stint funds for better environment. The technological equipment will be delivered from the USSR. It will remove 92 percent of sulfur dioxide and all flue ashes from waste gases and its side product--sulfuric acid--will be used in our chemical industry.

The pipe rollers and ironworkers of Chomutov deserve praise for their crusade for better environment. They are building desulfurizing stations for power gas which will not only reduce its hydrogen sulfide contents and prevent the strong odor in the shops and in the vicinity of the plant but also expand the service life of the brickwork in the furnaces and of the technological equipment. Separated sulfur will be used as additive to resin coating in roadbuilding and transportation communications.

#### An Urgent Political Task

Political representatives, economists, national committees and civic organizations in the district regard concern for healthy environment as their urgent and immediate political tasks, as confirmed also in our conversation with the leading secretary of the CPCZ central committee, Comrade Vladimir Vodrazka, and by the words of Eng Vladislav Vanicky, manager of the department for forestry and water management and agriculture at the district national committee. They are aware that no promises to the citizens and no bold and well intended programs can help if they are not implemented expeditiously, with the least possible delay.

Central authorities, above all the Federal Ministry of Fuels and Power Engineering, the Ministry of Forestry and Water Management of the CSR, and the ministries of health and of construction of the CSR should assist the district in this respect efficiently... Time's awasting. Each unnecessary delay and vacillation are pulling the noose tighter around nature's neck, humiliate her and harm our people and society. The moment has come to start dealing with urgent problems gradually but decisively.

If boilers for liquid combustion of coal would be installed in power stations as soon as possible, that, in addition to desulfurization, would prevent flue ashes from escaping into the atmosphere and furthermore, eliminate further requisitions of valuable farm lands for ash storage. The most advanced solution involves burning of high-grade fuels, especially natural gas, in power stations, however, this attractive option is still nothing but a dream because it depends on many technical and economic factors, as does electric power generation in our nuclear power stations. Nevertheless, this dream will be translated into reality in the future.

The struggle to eradicate pollution in the Chomutov area is being waged step by step, with determination and deliberation. Old compact boiler rooms which supplied heat to residential homes are now being liquidated. It is prohibited to install new coal furnaces in communities and towns. The power stations in Prunerov will be converted into a thermal plant to supply steam and hot water to the town of Klasterec on the Ohre River and to the areas west of Chomutov.

#### Troublesome Spontaneous Fires

Fighters against air pollution are facing particular difficulties stemming from spontaneous fires whose smoke is rising to the skies near the Nastup mines in Tusimice. They began while the abandoned deep pit of the Ludmila

mine was being reopened, and they are burning also on the line dividing two working faces in the Brezno and Merkur coal mines. The miners and mine rescue teams from Most are trying to put out the smoldering fires which are difficult to extinguish. Water alone cannot smother the fire and therefore, more effective methods are being sought.

Coal dust remaining in waste dumps is also burning. It had been covered with bulldozed-down soil to prevent air from penetrating to it. However, the miners of Tusimice have been slow in fulfilling the prescribed measures and even had to pay Kcs 50,000 in fines. Eng Vladislav Vanicky says, "We are fully aware that despite all their dedication and their difficult situation the miners lack favorable conditions to extinguish spontaneous fires due to shortages of appropriate mechanical equipment and of spare parts... We realize that we must not accept this excuse. We demand from them and other air polluters strict discipline and self-control. After all, cash penalties are but a bandage that cannot help nature."

#### The Cross with Flue Ashes

The dilemma of [the Czech writer Jan] Neruda with the straw mattress seems quite picayune when compared with the problems of ash storage distressing economic managers of the power stations in Prunerov and Tusimice: where to put millions of tons of ash annually, once it floats through the pipeline from the power engineering giants into sludge tanks! Indeed, that is a colossal lake of waste. Just imagine: if the power stations were to store their ashes until the end of their service life, the Nechranice dam with the capacity of one quarter of a billion cubic meters of water would have to be emptied! Floating pits no longer suffice. Therefore, according to the district program for development, new settling basins are being planned. Nevertheless, the plan has suffered a setback because the Czech power engineering works, the Energoinvest in Prague, failed to give this problem due attention and to this day is literally improvising, which is most astonishing.

We stopped at the dike of a sluice canal in the Tusimice power station, chockful of black powdery substance. The wind from Krusne Hory was blowing the dry ashes all around. At the sight of the dust reservoir memories evoked the harshness of nature when in May 1981 a huge cloud of dust rose from this reservoir and enveloped Kadan, a colony of summer cottages, the greenhouses of Sempra, all the greenery... Nature and local residents got a terrific licking.

Even the fine of Kcs 6.5 million which the power station had to pay could not reverse the damage. Responsible managers must proceed very strictly in enforcing regulations concerning floating ashes and regular watering of the drying surface in reservoirs. No excuses will be permitted. Other feasible solutions have been offered, for instance, to cover flue ashes with hydroponic cultivation or asphalt coating. Other proposals concerned recycling the ashes in the production of shaped bricks and other prefabricated materials. The problem is to find suitable bonding agents and to build such an expensive manufacture of construction materials as cheaply as possible.

## Green Light for Green Programs

Nonetheless, the people in the Chomutov area have not given up. A far-reaching movement has been mobilized in the district to reverse the ecological damage in their countryside. The group is fully aware of its duties and its ethical credo is to respect the laws of nature, to protect her by all means and to preserve a healthy environment, clean water, abundant forests and farm lands for next generations. The people have not accepted with resignation the harsh fate to which the coal deposits in the bowels of the earth under the Krusne Hory had doomed them.

The Green Program outlined for the 1981-1985 period and planned for extension to the following years is waging a noteworthy struggle in the Chomutov area. Its participants deserve our respect and dedicated support because mere words mean nothing but specific actions are of great importance. National committees, sectors of the National Front, factories and schools, miners, power engineers, foresters, fishermen, health workers, well, everybody, all citizens are interested in implementing the election program.

Its "sacred" focus is on reforestation of thousands of hectares in the affected areas of Krusne Hory. Trees resistant to pollution, both deciduous and evergreens, such as [prickly] spruce, birch, rowan, will be planted there. The forest will be beneficial for water economy and the climate. At the same time, forests will be drained, fertilized and limed, areas for tree nurseries expanded and protected against vermin, reservoirs for potable and service water will be built, and life will be restored in the countryside devastated by mining.

The residents of the Chomutov area are not waiting for some savior. They organized programs to improve the environment and to mitigate the effects of pollution. This has been confirmed by hundreds of thousands of hours spent at volunteer work, which best demonstrates their feelings about their country. Most of them have put deep roots in that country and want their children and grandchildren to live a happy life there. They realize that lamentations do not help. The struggle is going on and it is not in vain!

It is a joy and pleasure to go for a walk and rest in the valley of Horni Halze under the canopy of verdant vegetation unaffected by smoke pollution. A green oasis in the park of the castle in Klasterec on the Ohre River and the park in Kadan are meticulously maintained. Visits to the sprawling forest park in Kamenc Lake in Chomutov, a European rarity with its forest grove of chestnut trees producing edible fruit, with its rare fauna and water fowl, is most invigorating. It is beautiful experience to see the fruit trees in bloom and the soft grass sprouting on the recultivated waste dumps of the Nastup mines in Tusimice, to watch the lightning-swift trouts swimming to and fro in the Ohre River under the levee of the Nechranice dam which has become a popular summer spot for swimmers and water sports enthusiasts.

It would be blasphemy to describe the Krusne Hory mountains and the areas in their valleys as an unsightly, dying country.

It can boast also an attractive face. The towns of the Chomutov district have about 270 hectares of common green. For example, this year citizens' committees in the district town, in Jirkov, Kadan, Klasterec on the Ohre River and Venjprty accepted into socialist care an additional 8 hectares of public areas and protected zones. Scores of hectares of public green zones are cared for by the villages in that district. Such a sanitary strip of shrubbery and flowering plants, trees and reservoirs provide a good filter against dust and ashes and act as do the lungs to help people breathe cleaner air and offer them a soothing hinterland where people can restore their energy.

Citizens of model communities in Perstejn, Radonice, Mastov, Brezno near Chomutov and elsewhere have set an example by establishing green zones and beautifying their homes in the self-help project "Z". During the current five-year plan selected programs will expand the project, among other things, to additional scores of hectares. The Chomutov forest park, the sanitary zone in the Bezruc Valley, the reconstructed castle park in Cerveny Hradec near Jirkov will be expanded and in 1986 the waste dumps in the Nastup mines and many other locations will be recultivated.

Next to the Nechranice water works, the mountain dams in Krimov and Kamenicka and in particular, the Prisecnice dam are beneficial for the climate in the Chomutov area and supply good potable water not only to this environment but also to parts of the Most, Teplice and Louny districts.

#### Solution: To Eradicate the Causes of Pollution

Comrade Vladimir Vodrazka, the leading secretary of the Chomutov district CPCZ committee, said critically: "All of us must be concerned about cleaner air. We cannot vacillate and postpone the solution of problems affecting our steadily deteriorating environment. Empty promises, stacks of papers containing theoretical solutions and numerous laws adopted for environmental protection will come to nought if we do not receive more efficient support from appropriate ministries in fulfilling the tasks assigned to them by our government.

"We in this district cannot cope with all our problems. That is beyond our power. In this respect the national committees as the representatives of people's power as well as our citizens need and expect from the ministries more versatile cooperation. It is not enough to "put out" the consequences of environmental pollution. We have been doing that in the Chomutov area but first of all, we must eradicate the causes of pollution. That is the only correct, fundamental solution."

Indeed, we are very much indebted to nature--not only in the Chomutov area and in North Bohemiz but also in other corners of our lovely homeland, from Sumava to the Tatry mountains. We all, without exception, have the obligation to respect and protect nature, not only to overpower her like "boors" but return her like knights, to cherish her as our mother and life-giving force for all her generous gifts and to repay her our immense debt for the sine committed against her that no penalties can every approximate. After all, to quote Engels' words, "we belong to her with our bodies, blood and brains and we are attached to her."

GOVERNMENT WARNS GROYNE BUILDERS, OTHER ENVIRONMENT SPOILERS

Bridgetown THE NATION in English 8 Jun 82 p 2

[Text]

MINISTER of Housing and Lands, Delisle Bradshaw, has promised to use "the full force of the law" against persons who illegally erect beach groynes, abandon derelict vehicles on private and public property, abandon dwelling houses and carry on roadside garage operations which inconvenience the public.

Bradshaw, speaking in Queen's Park House last Saturday at a ceremony hosted by the Barbados branch of the Caribbean Conservation Association and the Keep Barbados Beautiful Committee, said he was calling on everyone concerned to cease the above offences against the natural beauty and environment of Barbados.

The ceremony was held to mark World Environment Day and also to present awards and prizes in the Committee's flower garden competition.

He said that the problem of illegally erected groynes was especially bad in some areas of St. James, where some beach-side residents "had taken the law into their own hands" and created situations where their property had been enhanced

but other adjacent properties were being destroyed.

The Minister also pointed out that on the islands south coast, the problems of groynes was not as bad but what was happening was the encroachment on beaches by hotel developers, despite the legal fact that all beaches up to the high water mark was public property.

Bradshaw said that he was issuing a warning to persons also issuing a warning to persons abandoning derelict vehicles alongside roads and in Government-owned housing estates, and he advised the latter to "start getting them off."

On the question of waywide garages the minister said that he was of the opinion that many of these arrogantly carried out their operations and inconvenienced the travelling public because they "knew persons in authority".

He said that Government had provided an area for this type of business enterprise in the Husbands, St. James area and all such garage operators would have to eventually relocate there.

CSO: 5000/7550

## IMPACT OF ENERGY DEVELOPMENT ON ENVIRONMENT ASSESSED

Georgetown SUNDAY CHRONICLE in English 6 June 82 pp 6-7

[Article by Mahamad Hanif]

[Text] IN EVERYDAY speech when we refer to our surroundings, that is, all that is close by, we use the term "environment".

Literally the term "environment" refers to the physical and biological life-supporting system or biosphere, "the thin layer of soil, rock, water and air that surrounds the planet earth along with the living organisms for which it provides support, and which modify it in directions that either enhance or lessen its life-supporting capacity". Homo sapiens, or human beings, are the most important species that depend on the environment for continued survival.

Concurrently, the "freeness" provided by the environment has been taken for granted and changes have continued apace, some beneficial and others leading to the degradation of environmental quality or irreversible damage to the environment.

Most of us are aware of the diversity of our natural resources, and whether they are inexhaustible, renewable or non-renewable. Are we just as knowledgeable about the conservation of these resources?

### Impact of Energy Development on the Environment

Guyana's economic development is linked to industrial expansion which depends on the production of energy. Here the choice lies between the development of its proved hydropower resources or the utilization of its vast untapped biomass resources for the generation of electrical energy.

At present the escalating costs of energy generation using imported fossil fuels limit industrial development. By the turn of the century provided the right options are chosen industrial economic growth is predicted.

A short list of commercial energy sources includes hydropower, biomass and fossil fuels. Hydropower development would have significant adverse impacts on both the terrestrial and aquatic environments depending on the size of

the project and site-specific factors. Disrupting of river regimes would be detrimental to aquatic productivity leading to loss of fisheries.

Malaria, snail fever and other water-borne diseases would pose grave public health problems. Valuable forests, mineral deposits, agricultural lands and human settlements would be lost due to the creation of water storage basins.

Biomass (fuel wood, charcoal) is an increasingly important energy source both in urban and rural communities replacing kerosine and natural gas as domestic fuel. Steam turbines utilizing fuel wood for the generation of electricity can solve our immediate and future energy problems.

Forest exploitation for large quantities of fuel wood would destabilise river basin catchment areas if quick-growing species of trees are not planted on a plantation basis to replace the primary vegetation and limit erosion and seasonal flooding hazards.

Charcoal is utilized mainly for domestic cooking. Its production could be controlled to minimise its impact on the integrity of the forest environment.

#### Impact of River Basin Development Projects on the Environment

In Guyana's coastal zone three major river basin development projects have been established namely, the Canje River Basin Project, the Abary River Water Conrol Project, and the Tapakuma-Supenaam River Project. For the sake of brevity only the first mentioned project would be described here.

A sluggish, deep-flowing, silt-free stream, the Canje River is the chief right bank tributary of the Berbice River. It rises in the elevated White Sands area 224 km from its estuary and flows parallel to the seacoast about 24 km inland.

Its 3,458 km<sup>2</sup> drainage basin lies within the White Sands Plateu in its upper course and the coastal wetlands in its middle and lower courses. There is an extensive dendritic system of riverine tributaries in its catchment with natural surface-storage areas formed by the low-lying swamps and marshes under vegetation cover including the Potoco Swamp and a large area on its right bank between Torani Tail and Ikuruwa Mouth. Beyond the open coastal savannas are the low-lying swamps and marshes merging into the gently undulating up-lands under scrub vegetation, savannas and forests. The White Sands area yields large volumes of groundwater supplies which maintain the normal base flow of the mainstream during the dry season.

The Canje River System is being developed for multiple use purposes including flood control, drainage and irrigation projects as well as transportation. Planning, development and management of existing and proposed projects in the river basin and contiguous areas should be carefully integrated to regulate land use practices and minimise the impact of floods and droughts. Presently the chief sugar cane and rice growing areas lying between the right bank of the Canje and Corentyne Coast, approximately 36,437 ha are supplied

with irrigation water from the Canje river supplemented by water from the Berbice river through the Torani Canal which became operational in 1958. A gated 22.56 km gravity flow link canal connects Torani on the Berbice and Friendship on the Canje.

A massive rehabilitation and development programme ('79-84) is being implemented. We spend large sums of money to establish and operate flood control projects to safeguard and increase the productivity of our valuable coastal wetlands. Water control is a useful tool and must be applied to the task for which it is designed. How many of our farmers fully understand its capabilities and limitations? As a user of water are we more concerned to see how fast we can get it from our fields into the rivers and out to sea? If we wish to manage the water resource of our wetlands effectively we need to know the answers to such critical questions as--

What water levels and soil properties should be achieved in our wetlands to improve their productivity for crops, forage and wildlife and to conserve groundwater supplies?

The adverse impacts on the environment resulting from the manipulation of the hydrology of the river systems would to some extent be minimised if our land use measures maximise the role of the soil in water supply and flood prevention. Adequate measures would have to be taken to lessen the impact of pollution of water-ways in the basin area by pesticides, fertilizers and effluents from processing plants. Monitoring of the long-term effects of river basin development on the wetlands ecosystem is suggested.

CSO: 5000/7550

SCIENTISTS DISCUSS NILE POLLUTION THREAT

Cairo AL-MUSAWWAR in Arabic No 3005, 14 May 82, pp 22-25

[Article by Rabi' Abu al-Khayr: "The Nile Is Still Clean, But Scientists Are Sounding the Alarm!"]

[Text] All over the world, rivers are threatened with pollution.

There are many types of pollution increasing every day due to residential activity and advances in technology at the expense of the environment. But what worries the specialists is that the natural capacity of rivers to cleanse and purify their water is weakening in the face of pollution sources. In Egypt the Nile River, considered to be one of the cleanest rivers in the world, remains endangered. Egypt's scientists are sounding the alarm, saying yes, the Nile is still one of the cleanest rivers but we should be careful now that residential activity is increasing along both banks.

The question now is, how do we safeguard the cleanliness and purity of the eternal river. Studies undertaken at the National Research Center prove that from Aswan to its mouth, the Nile is being affected by all forms of life and environmental activity, both alongside and inside the river. Studies show an increase in salt and chloride content. Chemical and biological pollution increases every time the river turns its direction north, and especially at its tributaries Dimyat and Rashid. At these tributaries, and especially at Rashid, it has become very evident that the river has lost its capacity for purifying and cleansing itself naturally.

At a water pollution workshop in the National Research Center, AL-MUSAWWAR met with pollution experts and asked, why is the Nile losing its natural capacity for cleansing and purifying itself? Dr Muhammad al-Abayi', assistant director at the Center, said: "Our specialists at the water pollution workshop first started studying the Nile's water pollution in 1963 in the region located between Hilwan and al-Qanatin al-Khayriya, a distance of about 60 kilometers. From the perspective of micro-biology, the test results indicated that the pollution level before the Aswan Dam was built was linked to the flood season. That is due to the fact that during the flood season, foodstuffs carried in the water helps raise the total number of bacteria and pollutant indices. These latter consist of groups of bacteria which when found in water indicated the existence of excremental

pollutants in the water. In that case the chances for various kinds of intestinal diseases increase. Measurements of indices taken during the flood season, before the High Dam was built, show an increase in pollution during the remaining months of the year, which means that when the floods rose, the water used to carry along with it waste from factories, people, and animals. Since the High Dam was built, studies have focused on microbial content and pollution indices. The results show that the pollution level is no longer linked to the flood season but is linked to the intensity of human and agricultural activity and to the increasing, uninterrupted use of the Nile river to carry tourist boats. In addition, the Nile's water level has fallen noticeably, which along with the increasing numbers of factories and, hence, waste, has provided new opportunities for pollution to accumulate. Accordingly, the river's capacity for natural self-purification has declined. Another cause [of pollution] is that there no longer occurs the cleansing process that used to ensue during the flood season, contributing to the accumulation of polluting microbes and their increase throughout the river."

Dr Hilmi al-Zanfali, another assistant at the water pollution workshop has a different opinion on why the river is no longer capable of cleansing itself in the North: "The population increase in the northern Delta region, together with a lack of supervision and a lack of alternative methods of disposal have led to people disposing their waste in the river. This is in addition to factories which also dispose of their industrial waste in the river without treating it."

Dr al-Zanfali adds: "The National Research Center's studies have taken on a new forum thanks to a joint project undertaken between the Academy for Scientific and Technological Research and the American University of Michigan, and funded by the Environmental Protection Agency in the United States. The study centered on the effect of chemical and microbial changes from the Lake Nasir region up to the mouth of the Nile at Rashid and Dimyat. It showed that in areas of dense population the microbial content of the river is greater. But the study also showed that despite an increase of pollutants up to where the Nile meets, the river has so far been able to contain the problem in the south due to its high outflow. For this reason, the river's condition is much better in the south than in the north."

Dr Shawqi al-Huwari, a researcher at the workshop, adds: "Pollution indicators can be either bacteria or viruses. Viruses are not used as pollution indicators, because they are at the same time one of the causative factors of many diseases, both familiar and unknown to us, such as cancer. Studies undertaken by the pollution workshop on the river's flow prove that the variety and the concentration of viruses tend to increase as the river flows northward and concentrate from Hilwan to al-Qanatir al-Khayriya. This indicates man's abuse of the source of life, the Nile ..."

[Question] How do these pollutants enter the Nile?

[Answer] Dr al-Huwari: Pollutants enter either through man himself, as a hostile element: this includes the ordinary sweeping of human waste, or deposits of sewage; or it might happen through non-human ways which might

still be controlled, e.g., the wind could blow along dirt loaded with microbes; the current irrigation system allows the use of excessive quantities of water which, after being mixed with dirt, is poured back into the river along with the pollutants it carries. These could include insecticides or microbes present in organic fertilizers, whether in a small irrigation canal or in a large conduit that flows into the Nile.

AL-MUSAWWAR met with Dr Ahmed al-Rifa'i Biyoumi, head of the Marine and Fisheries Institute, and posed this question: Is the Nile polluted now? What is the extent of the effect of this pollution? Dr al-Rifa'i answered: "The Nile's problem is everyone's problem. People are being afflicted with diseases caused by human and industrial waste, and insecticides. We must sound the alarm in the period to come, because prevention is better than treatment. We must beware of what the Nile could become in the future. I believe that the solution to this problem does not lie in the direction of stricter supervision over factories that disposed their waste in the Nile, nor in placing laws for the protection of the Nile. The real solution is in instituting networks of health care in the villages and studying ways to change the customary behavior of the typical Egyptian with respect to the water. Also, any plans for exploiting tourism on the Nile should be accompanied with precautions against pollution by tourism, especially pollution resulting from tourist boats travelling up and down the river."

Dr al-Rifa'i added: "An important issue that must be studied is how to treat the waste that is polluting the Nile river. It is necessary to ask existing factories to treat its own waste before depositing it in the Nile. This issue may be viewed as economically advantageous. Although it is true that the factories will bear the cost of waste treatment, we should look at it from the point of view that man's health is priceless, and that the state already spends money on health care for its citizens. I say to everyone that the individual in Egypt should be placed before any other consideration. We must design the factories yet to come...As we speak of the Nile's cleanliness and safety from pollution, we must consider another issue: a return to the use of water or liquid wastes will avoid pollution and from whose chemicals we can derive some benefit. The question arises: Why recycle water when it is so plentiful in Egypt? The answer is that despite the abundance of water we are still in need of water resources, particularly since we are committed to a process of agricultural expansion and reclamation of land. Recycling water is now necessary. In foreign countries such as West Germany water is recycled more than 14 times. It is a process which we should learn now, with the aid of researchers and specialists. For example, how do we recycle the flow of clean water for agricultural purposes? I would like to emphasize that we are in need of [health] stations and networks to observe and monitor pollution. More importantly, to be effective such stations must be equipped to sound the alarm [in the event of health hazards]."

[Question] Can we call the Nile a clean river?

[Answer] The Nile is currently considered to be relatively clean. But the danger of the problem will be apparent in the future, especially with the

increase in population activity and the establishment of factories. There is another kind of pollution afflicting the Nile, aesthetic pollution. Just as people are stricken with disease as a result of pollution, the Nile has taken on a sort of blackish look. Once it was surrounded with greenery; now it is surrounded with piles of refuse, in addition to the cement factories' smoke which pollutes the Nile through poisonous chemicals mixing with the river water. In this sense, the Nile is being afflicted with aesthetic pollution. I fear that it is increasing, and that not even the most drastic cosmetic surgery can help.

[Question] Is there a connection between the Nile's pollution and diseases afflicting people?

[Answer] (This question was answered by Dr Muhammad Husni Shahata of the Health Ministry's Clean Environment Administration): Insecticide waste mixed in with drainage water and irrigation canals affects the nervous system and can lead to poisoning. Some of this waste is connected with cancer. There are certain groups of diseases caused by tiny living organisms transmitted through water--viruses that could cause infectious liver diseases, diarrhea, and infant paralysis. Then there is the bacteria that causes dysentery, typhoid, and cholera, and parasites which cause amoebic dysentery and bilharziasis.

Dr Shahata added that after the High Dam was built, the Nile's water quality changed. This led to the appearance of certain kinds of snails which had crawled to the upper Nile, which in turn led to an increase in the incidence of Bilharziasis. There are many dangerous diseases which could cause epidemics like cholera upon reaching the Nile's waters.

[Question] Is there a connection between the Nile's pollution and summer diseases?

[Answer] There may be a connection, because microbes grow in quantity in the summer. Therefore, it is easier for them to spread in water. That's why Law No 93 of the year 1962 forbids the disposal of sewage waste and industrial waste in outflows except under certain sanitary conditions. That's why the Health Ministry's Clean Environment Administration in the provinces selects samples of the Nile's water and of drinking water to ascertain the presence or absence of pollution. It has found that the level of pollution in the Delta region is greater than in the eastern part, due to the fact that the Nile's tributaries are disparate and flow directly into the villages where population density is higher (in contrast to the eastern part).

Dr Imam Zaghlul, president of the Vaccination Administration says: "The water canals that branch out from the main stream of the Nile has a high pollution level. As for the mainstream, in my opinion the pollution level is considerably less than that of European rivers like the Seine, Thames, and Danube. These latter rivers are loaded with chemical waste to the extent that they cannot be used for drinking."

[Question] Isn't sanitary waste thrown into the European rivers?

[Answer] Definitely. And if anyone throws human waste into the Nile emitting organic pollution, then that is a crime punishable by law. That is one of the principal causes of bilharziasis, especially by way of the water canals and tributaries linked to the Nile directly. In my view, penalties for pollution of the Nile should be stiffer, because the Nile is the source of life itself in Egypt.

#### Insecticides and the Nile

The result of the increased use of insecticides worldwide has been largely negative, according to the type of insecticide, the poison it contains, and its duration in the environment. Often, pollution of the Nile by insecticides has led to the extermination of certain types of crustaceans, such as the daffea, which feed on watermoss. As a result, there has been an increased growth of watermoss. This in turn constituted a problem for the water purification plants, because watermoss can change the taste and odor of water, and clog purification filters. Several studies done at the National Research Center and in other countries show that the traditional methods for extracting insecticides from contaminated water are ineffective. Hence, many countries are using activated carbon as a highly effective means of containing organic pollutants which affect the special properties of water and which might make it hazardous to health.

[Question] How can we limit the negative effects of insecticides and at the same time make use of the insecticides?

[Answer] (Dr Anwar al-Dib of the National Research Center responded): Some Western nations found that the first step was to stop using the advanced hydrocarbon group of insecticides like D.D.T., because of the way it lingers in the environment and accumulates in the soil, in fatty tissues, and in the liver, which increases the chances for illness. These Western nations have now started to use a kind of phosphoric insecticide which dissolves easily in soil and water in short periods of time. Therefore, the effect on the environment would be very limited. We should be using insecticides that attack the intended undergrowth and which won't affect other living organisms. Many countries won't allow insecticides to circulate before running special tests to confirm their affect on undergrowth (shrubs) and to discover any undesirable side-affects they might have. We need to study our own insecticide needs.

Weeds and a lack of oxygen in the water expose the Nile river, irrigation canals, and tributaries to the dangerous phenomenon of the spread of weeds and water plants. Ad Dr Ahmad Muhammad Isawi of the Institute for Marine Sciences and Fisheries says, these weeds reduce quickly, especially when the water current is calm, as happened after the High Dam was built. They grow at such a fast pace that they begin to form a dam that completely stops the water's flow. These weeds constitute juice for bilharziasic snails. Also, when these weeds thicken they tend to decrease the amount of oxygen in the water. This in turn leads to the smothering of underwater life, especially

fish. Reports have been compiled which show that an area of one feddan of the Nile river causes an estimated amount of pollution--such as attrition of oxygen in the water--equal to that of 40 people.

In the National Research Center, parasitology and animal diseases laboratory, scientific studies are being undertaken on the effects of the Nile's pollution on fish. As Dr Muhammad 'Adel 'Abbas, the laboratory head, says, the studies show that the fish act as a conduit between parasites and bacteria, and people. For this reason, the Center and the Food and Drug Administration in the U.S. have contracted to study the spread of parasites and bacteria from fish to people. The primary objective was to make a thorough survey of the effects of seasonal changes on parasites and bacteria, and their relative presence in fish throughout the year. It was found that their relative presence is higher in summer than in winter. It was found that the kind of fish most responsible for transmitting bacteria and parasites is the striped mullet, which has a presence of up to 70 percent. Its danger lies in the fact that striped mullet is used in the preparation of [small salted fish]. It is followed by the bolti, with a presence of 40 percent, and then by a variety of sheatfish with up to 20 percent. As for bacteria-related diseases, it was found that the fish of the Nile and of the lakes transmit microbes that cause fevers and intestinal disorders. It was also found that fish caught in the wider and deeper water canals contain a lower presence than the fish found in shallower water. And fish found nearer to the sources of the water's outflow are a factor in water pollution. In the opinion of Dr Muhammad Abbas, the solution is to decrease the outflow of water in the canals and treat the chemical waste that flows in the Nile and pollutes its fish, exposing people to different diseases.

Dr al-Rifa'i Biyumi, director of the Institute for Marine Sciences and Fisheries, says that marine life can be an indicator of the level of pollution in the water. A process of measurement and observation can determine whether a region is clean and free from pollution in its marine life. An analysis of a variety of its marine life will indicate the existence of pollution. This is due to the fact that some fish, like the bolti and water moss, store within them heavy minerals like zinc and mercury.

A report prepared by researchers attached to the Academy for Scientific and Technological Research and working on the Nile River/Lake Nasir project confirm the average amount of disinfectant in Lake Nasir's surface averages about 14 billion cubic meters annually, or about 11 percent of the lake's reservoir size. This fumigation has led to an increase in the water's salts by about 15 percent. The research team set about the project by taking measurements of the river, since 1975, in five sectors: Aswan, Asyut, Cairo, the Dumyat tributary, and Rashid. The results proved that large quantities of sanitary water are recycled to the river and to the main agricultural canals, amounting to 3.5 billion cubic meters annually in the Delta region. The result of this is an increased concentration of dissolved mineral salts like nitrogen and phosphate. Also, the quantity of river fish was affected after the High Dam was built, which led to a decrease in the variety of commercial fish in places where the Nile is deteriorating,

like in the northern Delta where only 17 kinds of commercial fish are to be found today as opposed to the 47 kinds that used to be found in 1948.

Dr Ibrahim Yunis, head of the Environmental Information Center for the Nile River, a part of the National Research Center, asserts that the initial results of studies done on the Nile with regard to agriculture in the al-Munia, al-Buhara, and al-Mansura provinces indicate the following.

- A dangerous accumulation of salts was found in the region of al-Munia, which uses surface (shallow) water at the rate of about 25 kilos per feddan per month. The region of al-Mansura, which uses deep water, was found to have a steady flow of salts. A detailed study was taken to estimate the quantity and kind of irrigation water entering the Nile River's delta and flowing out to the Mediterranean, in order to determine the extent of its usefulness for recycling. The study's initial results show that the quantity of irrigation water being lost in the outflow to the sea is approximately 26 billion cubic meters annually.

The report recommended that, in regard to Lake Nasir, there must be more studies taken in order to forecast the long-term effects of the residue in the Lake's reservoirs, and the qualitative changes that occur in the water environment with respect to fish resources and coastal evolution. Problems of pollution in the Lake are going to have a noticeable impact on the Nile's flow. With respect to the Nile river, the report says: The Nile River may be considered clean in comparison to the rivers of Europe and North America. It has problems of both a local and an international nature. Based on the research done so far, the quality and characteristics of the Nile river's water are starting to deteriorate. The river is in danger of becoming one big irrigation canal full of wastes. Gigantic efforts are required to overcome or control its pollution. Law No 93 of the year 1962 is no longer effective.

Studies pertaining to the Nile river recommend the development of comprehensive programs for the administration of the river, taking into account the multi-purpose used to which it is put. There is a need for more realistic legislation for the protection of the river from pollution, accompanied with more effective guidance. Al-MUSAWWAR met with the expatriated Egyptian scientist Wahid Shendi, head of the Environmental Pollution Center at the University of Southern California in the U.S. It is one of the most modern centers of environmental pollution in the United States:

"Egypt's environmental pollution problem, in the water, air, soil, etc., may be divided into two parts, in my view: part organizational and part legislative. We are in need of an organization that can obtain the required information and statistics on all forms of pollution. We need laboratories equipped with the most modern equipment. In my opinion, once we admit that we have a pollution problem, we have already started to find a solution.

"With regard to the legislative aspect, currently existing laws issued for the protection of the environment, including water, from pollution must be enforced. It is necessary to issue harsh laws that will be effectively enforced. We must see that the health of the Egyptian people and the safety

of the Egyptian environment are of paramount importance. In the U.S., the Attorney General prosecutes cases in court and imposes penalties on people who pollute the environment."

[Question] Dr Shindi was asked, what is the problem opposing the protection of the Egyptian environment from pollution?

[Answer] According to the UN's estimate, Egypt lacks laboratories [facilities] at the national level and at the provincial level that might undertake constant measurements of all kinds of pollution, from Alexandria to Aswan. These laboratories should be advance warning stations in case any pollution should be found in the Nile or any other water. The state must equip these stations with the most modern equipment and train cadres of scientists in this field. I propose that a part of the foreign aid received by Egypt be allocated to purchasing this equipment and training researchers in its use. There should be contact with foreign scientific circles. I am ready to help in establishing these laboratories and provide experience so that we can lessen the harm caused by this problem, a problem which causes many diseases such as cancer, which has been seen to be spreading lately.

Long ago poets used to say that Egypt was the gift of the Nile (the source of life in Egypt). Will we allow our eternal Nile river to remain incapable of purifying itself? The question that poses itself is that despite all the scientific conferences held from time to time for the study of environmental pollution, including pollution of the Nile, and despite all the recommendations that came out of these conferences, the eternal Nile is still threatened by pollution. The strange thing is that Law No 93 of the year 1962 provides for penalties ranging from fines of not less than 25 piasters, and from 25 to 60 guineas, plus imprisonment not to exceed three months for anyone polluting the Nile, but are these penalties enough to protect the Egyptian's health? I don't think so! Our ancestors were the ancient Egyptians. The Pharonic papyrus says that they used to worship the Nile and that the gods would judge them if anyone contaminated the Nile's waters. The ancient Egyptian used to stand before the gods and say "I swear that I have not polluted the Nile." Do we still have that reverence for the Nile today!?

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CSO: 5000/5015

ALEXANDRIA WATER, AIR POLLUTION PROBLEMS SAID TO BE INTENSIFYING

Cairo UKTUBUR in Arabic No 1402, 30 May 82 pp 26-27

[Article by 'Ali 'Isa: "Pollution in Alexandria: Serious Issue"]

[Text] Air pollution has become more dangerous for the inhabitants of Alexandria and Cairo. The Scientific Research Academy had set up 13 electronic stations to measure air pollution trends atop high buildings from Abu Qir to al-Maks. But the project came to a halt when Alexandria Governorate stopped financing it. Drinking water has become polluted as a result of the pollution of the water sources: Al-Muntazah Canal and others.

Al-Mahmudiyah Canal has become completely polluted as a result of the industrial waste, sewage and dead animals dumped into it. The canal is located within the city of Alexandria. Its pollution has intensified because the industrial companies dump their waste in it without subjecting these pollutants to any treatment. This dumping is taking place because of the officials' negligence and the absence of any deterrent implementation of the laws, all of which has encouraged the private sector companies, as well as the public sector companies, to continue to dump their wastes in the canal.

Abu Qir Bar, which until the recent past was called the Blue Bay, has taken the color of dark brown mud because the public sector companies in al-Tabiyah and Kafr al-Dawwar dump their chemical wastes in it. The Bay pollution has reached such a high rate that all marine life in it has died. This has caused us to lose an abundant fish resource and has caused the fishermen to migrate to Damietta and to West Alexandria--to Sidi Barrani and al-Anfushi--to find a source of livelihood. All the agricultural drainage canals have also become polluted as a result of the chemicals used in soil fertilization.

Ahmad al-Faqi, chairman of the Alexandria Water Resources Authority, said:

"Maryut Lake is completely polluted. This has affected the lake's fish resources. The danger is evident to the young fishes introduced into the lake for breeding. These fishes either die or flee the lake. The danger is not confined to fish but extends to man, considering that some companies dump into the lake wastes containing heavy minerals, such as mercury and lead, which are injected by the lake's fish that retain these minerals in their tissues and then transmit them to man when they are eaten. Moreover, the paper

companies in al-Tabiyah dump caustic soda into the sea water in Abu Qir Bay. This is in addition to the sewage dumped into the Bay. This sewage also reduces the fish resources. The Sanitary Sewerage Authority has conducted a study on transporting human waste to the desert southwest of al-Nubariyah for the purpose of reclaiming desert lands. This process, though very costly, is better than dumping this waste into the sea, even if it is dumped at a distance of 3 kilometers from the coast because the movement of sea currents carries this waste back to the shoreline. This [transporting of waste to the desert] is what is happening in the Greater Cairo from which waste is transported to al-Jabal al-Asfar.

"It is necessary to refrain from polluting or damaging every source of food for man. The Mediterranean Sea already contains some salts, such as phosphate, which affect fish production in this sea. This is why our fish production has declined. Even though Egypt has the best temperature in the world [insofar as fish breeding is concerned], it has no environmental zone containing fish food, especially since the Mediterranean's deep water is not recycled. Only this sea's surface water is recycled and this affects the water currents of the fish environment. The Mediterranean countries must cooperate to enhance their fish wealth and must impose deterrent penalties on boats that dump their waste in ports.

"The companies employ no real treatment procedures before dumping their waste. It is necessary to devote attention to Egypt's water resources because they are an important source of food. The sea yields 15 percent [of the fish production] whereas Maryut Lake and the internal canals yield 80 percent of our production. Alexandria Governorate has allocated 100,000 pounds to reduce the pollution in Maryut Lake and to create new outlets for it. But what is the use of this step if the companies continue to dump their wastes which cause the pollution? Al-Nasr Oil Companies have expropriated 3,000 feddans [of the lake] to dump their oil wastes into them. The cooling pumps of these companies siphon water from the canal and then dump this water into the lake, filled with oil pollutants. The Water Resources Authority has asked the companies to build a closed circuit, but to no avail."

Ahmad al-Faqi also said: "Alexandria Governorate is responsible for the pollution of Maryut Lake and for the encroachments against the water bodies. We have the material evidence for this responsibility. The governorate and its agencies licensed a chemicals company [to operate] recently even though the Water Resources Authority had rejected the company's request. What is worse, this company sent a letter to the Water Resources Authority on 14 November 1980 stating that its wastes are not (harmful). But this company's wastes have proven harmful to the fish farm extending from kilometer 21 to kilometer 34, as proven by the analytical report of the company itself."

The decision to set up the Public Water Resources Authority is a wise decision because this authority becomes the agency responsible for all the water bodies from Aswan to Alexandria. It thus becomes possible to determine the responsibility instead of allowing it to be indeterminate. Alexandria Governorate formed 4 years ago a committee for protection of the environment comprised of professors of health engineering, of the Higher Public Health Institute, of

sanitary sewerage and of water resources. But this committee has not submitted its proposals to the companies. Assuming that the committee did submit its proposals, then the companies--which compete in dumping more and more of their wastes into the sea and into Maryut Lake--would have ignored them.

The Higher Health Institute in Alexandria has conducted analyses on all the swimming beaches from Mustafa Pasha to al-Muntazah and has found in them but a small percentage of liquid pollutants, except for Sporting Beach where solid wastes abound as a result of the garbage and wastes dumped by the clubs and casinos all along the beach. The researchers have also found that untrained sanitation workers who do not know how to clean swimming pools are in charge of cleaning the Sporting Club swimming pool.

The Higher Health Institute has also conducted a study on water reservoirs installed atop buildings and it has become evident that these reservoirs are used as children's swimming pools after the children play their soccer games. This causes the drinking water to be polluted and requires that special attention be paid to water reservoirs installed atop buildings.

Alexandria also suffers from the pollution of its water sources, namely al-Mahmudiyah and al-Muntazah canals and the canal set aside for drinking water near Muhamram Bay. Numerous encroachments are committed against the banks of these canals and garbage and liquid industrial wastes are dumped into them. This is in addition to the numerous dead animals which are also dumped into these canals. This has caused the quality of the water to deteriorate. There is also the seepage of oil and lubricants from the boats and barges which cross these canals and this seepage causes aquatic life in them to die. Pollution law No 93 of 1962 on the protection of water bodies states that no wastes may be dumped into these canals. But the penalties in this law are not at all deterrent, considering that they are embodied in a 50-pound fine. It is necessary to amend this law.

Ahmad Shuhayb, the Alexandria Water Utility chairman, said: "The utility suffers from the onslaught of water moss on the filters which are blocked by the moss. This moss is a sticky gelatinous substance. According to laboratory analyses, the rate of moss content has reached one million particles in every liter of water. The moss causes a part of the utility's production to be lost in washing the blocked filters and generates an unpleasant smell in the water."

Engineer Hasan Shams, a WHO expert in Alexandria, said: "The U.S. Technical Bureau in cooperation with the Alexandria Sewerage Authority, has reached a system whereby sewage is disposed of into the sea, but according to a precise design which allows the sewage to be dumped at a distance of 2 kilometers [from the coastline] after studying the sea currents so that these currents may not carry the sewage back to the coast. The system also allows the sewage to be carried by large-diameter pipeline to be used, after being treated, in irrigating certain crops in the desert."

Dr Samiyah Jalal, a professor at the Higher Public Health Institute in Alexandria, supports the idea of dumping sewage into the desert to reclaim desert lands instead of dumping it in the sea. She supports this idea as a means to

protect the coastline from pollution and to uphold our commitments to international treaties.

Dr Samiyah has added that the long-range effect of water pollution has been the increase of intestinal infections among children, especially during the summer when the water smell becomes unbearable. This also affects tourism in Alexandria. Moreover, when the Nile weeds multiply, the Ministry of Irrigation uses chemical killers to get rid of these weeds. The effect of these chemicals on the soil and the crops becomes evident afterwards, even though the firms producing these chemicals claim that they do not affect crops. The truth is that the effect of these chemicals on human beings and on plants varies. It is an accumulative long-range effect and the Ministry of Agriculture should use dredgers and dredging forks to remove the Nile weeds, thus saving the state treasury the burden of having to purchase the chemicals. It is also necessary to amend the sewerage law which permits the dumping of industrial and human wastes in canals and drainage ditches. Deterrent penalties must be imposed on companies which engage in such dumping repeatedly because the canals are the source of drinking water.

The Public Health Institute conducted studies on all the methods of treating industrial wastes and has reached the conclusion that most industrial wastes can be treated easily.

Alexandria's air pollution problem has also intensified because 40 percent of Egypt's industry is centered in Alexandria. Dr Ahmad 'Isa, an instructor at the Higher Health Institute in Alexandria, has gotten his Ph.D for his study on the effect of some air pollutants on the rate of the spread of chronic chest diseases among students and housewives living in Alexandria's economy housing. The study consists of two parts: an environmental study whereby 16 stations were set up to monitor air pollutants in various parts of Alexandria. Air samples were taken every 24 hours over a period of 2 years to study the dust content in the air and its components--sulfur nitrates and nitrogen dioxide--to calculate the individual concentrations of each of these elements in the air.

A medical study whereby 10,649 persons representing a random sample of Alexandria's residents, including 5,548 students and 5,101 housewives frequenting the various health clinics in the city to vaccinate their children, were examined medically. A statistical analysis was made on all the data gathered by the researcher at the laboratories of the computer unit of the North Carolina Environmental Protection Agency in the United States. The researcher reached the conclusion that the concentration of dust suspended in the air in the eastern residential areas is lower than in the central industrial, commercial and residential areas where the concentration is higher than the limit acceptable internationally, namely 60 micrograms per cubic meter.

School children are quickly affected by any pollutants whereas housewives develop some immunity as a result of constant exposure. But housewives may develop more serious diseases than school students. Dr Muhammad al-Dakhakhini, the professor of air pollution at the Higher Health Institute in Alexandria, said: "Scientifically, no factory should be built at a distance of less than

"1 kilometer from residential areas, with the distance depending on the type of the factory."

The new al-Dakhilah factory is close to the Chlorine (Chemicals) Factory. Chlorine is a poisonous gas and has numerous harmful effects. It thus further complicates the problem because it will pollute al-'Ajami area which is a unique summer resort. The red iron dust will also fly with the wind and land on the saltworks, turning the color of the salt red [as published]. The factory will also affect the governorate's utilities because it will exert further pressure on them. It is necessary that any plant be set up on the site proposed for it in al-'Amiriyyah area by the economic feasibility study committee and that al-Dakhilah area be set aside as a residential-tourist complex by virtue of its unique location on the sea.

We cannot but laud the efforts of the scientists of the Higher Public Health Institute in Alexandria for their field studies to deal with the problems of air, coastal and drinking water pollution in and outside of Alexandria. These scientists have reached practical solutions founded on objective bases. We also cannot but laud Dr Muhammad al-Dakhakhini, the head of the air pollution section, for his foresight and his purchase of an electronic apparatus to measure nuclear radiation not only in Alexandria but in Egypt generally. This precise apparatus can foretell the emergence of nuclear dangers in case nuclear reactors are built in Sidi Karir or al-Dab'ah. The apparatus measures radiation 24 hours a day even beyond Egypt's borders and in the neighboring countries. Should abnormal nuclear activity occur in a neighboring country, this apparatus can sense and measure it.

Now, should we hope that Alexandria Governorate and the other governorates will take advantage of the research and studies of the Higher Public Health Institute or will these scientific studies remain locked in bureaucratic drawers and will the agencies in charge remain in one valley and these scientific studies in another valley, considering that the dangers of pollution are intensifying daily in Egypt and that it is necessary to deal with the pollution problems and to avert their dangers before they accumulate in a fearful manner?

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CSO: 5000/5016

EGYPT

BRIEFS

PAPER INDUSTRY POLLUTION RESEARCH--Researchers for the Public Company for Paper (Rakta) have solved the problem of the black liquid which threatens the Gulf of Abu Qir with pollution. They were able to recover the constituents of the black liquid, including very expensive caustic soda. They re-used it in again cooking rice straw, which saves the company 4 million pounds annually. Eng Fu'ad Abu Zaghlah, minister of industry, said that he has registered this method in the Patent Office and has marketed it throughout the world because the danger of the black liquid to the environment has led to a halt in the use of rice straw in extracting paper pulp in many world paper factories. [Text] [Cairo AL-JUMHURIYAH in Arabic 25 Jun 82 p 1]

CSO: 5000/5020

NATAL TO GET LAND FOR NATURE CONSERVATION

Johannesburg THE CITIZEN in English 26 Jun 82 pp 1, 2

[Article by Keith Abendroth and Jaap Theron]

[Text]

**NATAL is to get a massive tract of land for nature conservation — nearly twice the size of the disputed area to be ceded to KwaZulu by the Natal Parks Board in the consolidation controversy — to compensate for the loss of three Natal game reserves.**

But Natal's four MECs have already rejected the plan, which would create the third-largest reserve in the country after the Kruger National Park and the Kalahari Gemsbok Park and the largest undivided conservation area in the country.

Three Cabinet Ministers said in a combined statement in Pretoria last night the decision on the land offer to Natal had been taken against the background of the loss of Umfolozi, Hluhluwe and Mkuzi to KwaZulu.

The decision was announced after discussions yesterday with the Administrator and Executive Committee of Natal on the incorporation of Ingwavuma into Swaziland and the consolidation of KwaZulu.

The Minister of Co-operation and Development, Dr Piet Koornhof, the Minister of Finance, Prof Owen Horwood, and the Minister of Environment Affairs, Dr C F van der Merwe, signed the statement.

They said that in the discussions with the Natal representatives it had been "very clearly put" that two separate issues were involved.

"The area comprises which should not be confused.

One dealt with boundary adjustments with Swaziland and the other with land matters affecting the KwaZulu and South African Governments.

In the decision of June 8 the question had been covered of the three affected game reserves being taken over by KwaZulu and then possibly being administered as nature areas in trust by the Natal Parks Board.

However, considering the outstanding conservation work of the Natal Parks Board — particularly on the white rhino — the decision had now been taken to give land to Natal for a new park.

The area involved is about 140 000 ha in size. "Next to the Kruger National Park and the Kalahari Gemsbok Nat-

ional Park, this will be the largest undivided, multi-purpose conservation area in the country," the statement said.

The area includes the entire St Lucia Lake and surrounding area in part of the Mkuzi reserve and the area around Bangazi Lake. a large variety of habitats and eco-systems and, apart from its own distinctive fauna and flora, it will be exceptionally suitable for the resettlement of various game species," the statement said.

Natal's four NRP MECs indicated after yesterdays meeting they did not accept the Government's opinion on the matter.

Mr Frank Martin, the senior MEC, said his executive was continuing with its special session of the Natal Provincial Council next Wednesday at which a referendum on the land deal would be debated.

He was not prepared to reveal any part of yesterday's discussions.

Mr Ray Haslam, MEC, said the Natal executive did not accept the joint statement by the three Cabinet Ministers.

Dr Piet Koornhof told reporters afterwards the three Ministers stuck to the Prime Minister's standpoint that Natal did not have the jurisdiction to hold

a referendum on the issue.

Asked about the Government's attitude on a referendum, Dr Koornhof said it was considered at the time, but because of certain intimidatory factors it was decided to use different methods of ascertaining the opinion of the people involved.

He said the Government's information was that intimidation would have affected a referendum.

It was also announced yesterday that more areas in the Natal Drakensburg would be placed under the Natal Parks Board's control.

"By placing these areas under the control of the Natal Parks Board, it will be ensured that the board will, in due course, exercise control over areas in the northern, central and southern Drakensberg, comprising a variety of ecological areas.

"Some of the land is still in private ownership but will in due course be purchased by the State and made available to the Natal Parks Board for nature conservation and related purposes," the statement said.

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END